c. The dishes or bases are then crosslinked by photoactivation with a short wave UV light (mineral light 254 mm UV lamp Model UVGL-25) for 15–20 minutes.

EXAMPLE III—Procedure for Crosslinking Collagen

a. Pooled fractions of buffered collagen reagent from Sephadex columns are poured into 35 mm sterile culture dishes or PMMA bases and kept at 40° C. until ready for use.

b. Using the method of T. Elsdale and T. Bard, J. (Cell Biol., 54:626–637, 1972), dishes or bases are placed in an ammonium hydroxide chamber for between 3 and 30 minutes depending on the degree of rigidity desired.

C. The gels are then photoactivated for 15–20 minutes to achieve crosslinking.

EXAMPLE IV—Washing and Storage of Crosslinked Gels.

a. Gels are removed from culture dishes and PMRA bases and washed twice with distilled H_2O.

b. Gels are placed on a glass plate and a 6 or 8 Mm diameter trephine is used to punch out circular gels which are placed in individual test tubes containing 10 mL of phosphate buffer.

C. Fresh buffer is replaced every 60 minutes for 4 to 6 hours.

d. Gels are stored in Balanced Salt Solution or 0.9% sodium chloride.

Note: Continuous exhaustive washing may occur in PBS, BSS, NaCl (irrigation) or distilled H_2O.

We claim:

1. A method of preparing a superhydrated molecularly crosslinked collagen for use as a contact lens material comprising:

a. combining two or more collagen molecules with a photoactivatable heterobifunctional crosslinking agent having a conventional site and a photoactivatable site such that the conventional site on the crosslinking agent is bound to the collagen molecule, and the other photoactivatable site on the crosslinking agent is unbound, such that upon photoactivation, crosslinks are formed when the photoactivated site on the crosslinking agent binds to another collagen molecule;

b. photoactivating the collagen-crosslinking agent combination to form said crosslinks; and

c. incorporating the said two or more collagen molecules into a contact lens.

2. A method of preparing a highly crosslinked collagen for implant surgery comprising:

a. combining two or more collagen molecules with a photoactivatable heterobifunctional crosslinking agent having a conventional site and a photoactivatable site such that the conventional site on the crosslinking agent is bound to the collagen molecule, and the other photoactivatable site on the crosslinking agent is unbound, such that upon photoactivation, crosslinks are formed when the photoactivated site on the crosslinking agent binds to another collagen molecule;

b. photoactivating the collagen-crosslinking agent combination to form said crosslinks; and

c. incorporating the said two or more collagen molecules into a surgical implant.

3. A method of preparing a highly crosslinked collagen for injection material comprising:

a. combining two or more collagen molecules with a photoactivatable heterobifunctional crosslinking agent having a conventional site and a photoactivatable site such that the conventional site on the crosslinking agent is bound to the collagen molecule, and the other photoactivatable site on the crosslinking agent is unbound, such that upon photoactivation, crosslinks are formed when the photoactivated site on the crosslinking agent binds to another collagen molecule;

b. photoactivating the collagen-crosslinking agent combination to form said crosslinks; and

c. incorporating the said two or more collagen molecules into an injection material.

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